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US 5739512 A

Internet Engineering Task Force - RFC 1767 - MIME
Encapsulation of EDI Objects - MArch 1995

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(71) Applicant(s)

International Business Machines Corporation
(Incorporated in USA - New York)
Armonk, New York 10504, United States of America

(72) Inventor(s)

Herman Rodriguez
Newton James Smith
Clifford Jay Spinac

(74) Agent and/or Address for Service

IBM United Kingdom Limited
Intellectual Property Department, Hursley Park,
WINCHESTER, Hampshire, SO21 2JN,
United Kingdom

(54) Abstract Title

Creating and managing Electronic receipts

(57) A method for creating electronic receipts comprises creating a receipt 110 on a first computer, embedding the receipt in an E-Mail and transmitting it to a second computer where it is received 120 and processed by program and the data posted to a money manager program or file 180. The first computer preferably comprises a cash register interface connected to a bus which may have one or more cash registers and card readers attached. In a second embodiment the receipt may be created using a web enable form (Figs 5 and 7). The electronic receipt is preferably embedded as a MIME or S/MIME data type and preferably contains at least one of the following pieces of information; originator, destination Merchant ID, payee, payment method and tax information. The electronic receipt may be detected 135 by a plug-in on the second computer. Preferably, an acknowledgment E-Mail 145 will be sent by the second computer on receipt of the electronic receipt.

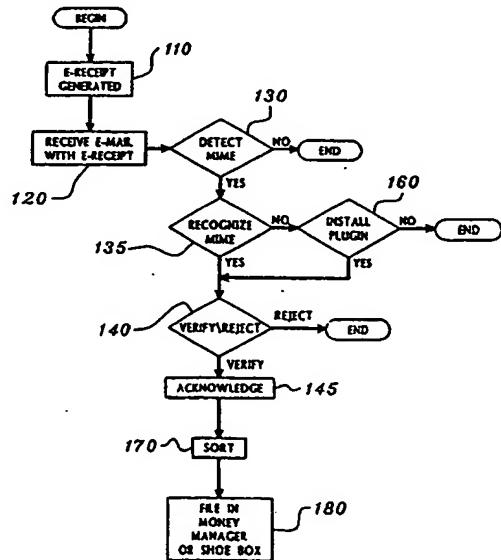


Fig. 6

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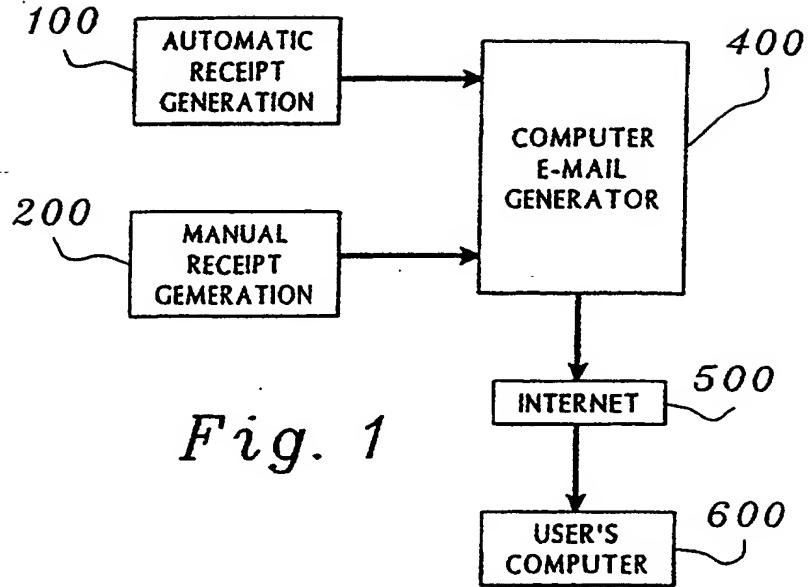


Fig. 1

300

| | |
|---------------------------------|-----|
| ORIGINATOR IDENTIFICATION | 301 |
| DESTINATION IDENTIFICATION | 302 |
| MERCHANT INFORMATION | 303 |
| PAYEE INFORMATION | 304 |
| CONSUMER INFORMATION | 305 |
| IPRODUCT/SERVICE DESCRIPTION | 306 |
| TRANSACTION TYPE | 307 |
| TRANSACTION DATE | 308 |
| TRANSACTION EXECUTION POST DATE | 309 |
| SERVICE OR MANUFACTURE DATE | 310 |
| PAYMENT METHOD | 311 |
| PAYMENT AMOUNT | 312 |
| PAYMENT PRESENTATION DATE | 313 |
| PAYMENT RECEIVED DATE | 314 |
| TAX INFORMATION | 315 |
| CREDITS | 316 |
| DELIVERY INFORMATION | 317 |
| RECEIPT TYPE | 318 |
| TRACKING NUMBER | 319 |
| RECEIPT ACKNOWLEDGMENT | 320 |

Fig. 2

Fig. 3

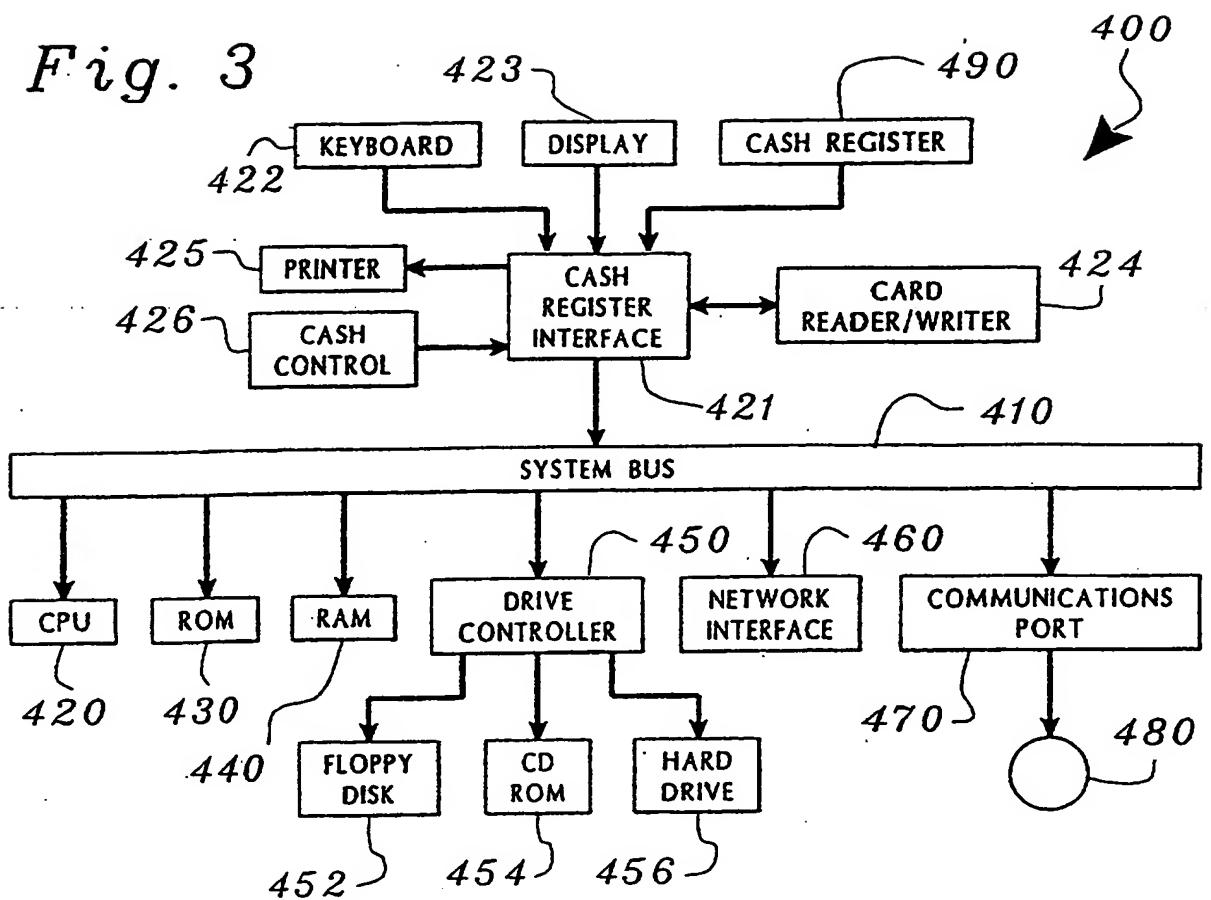
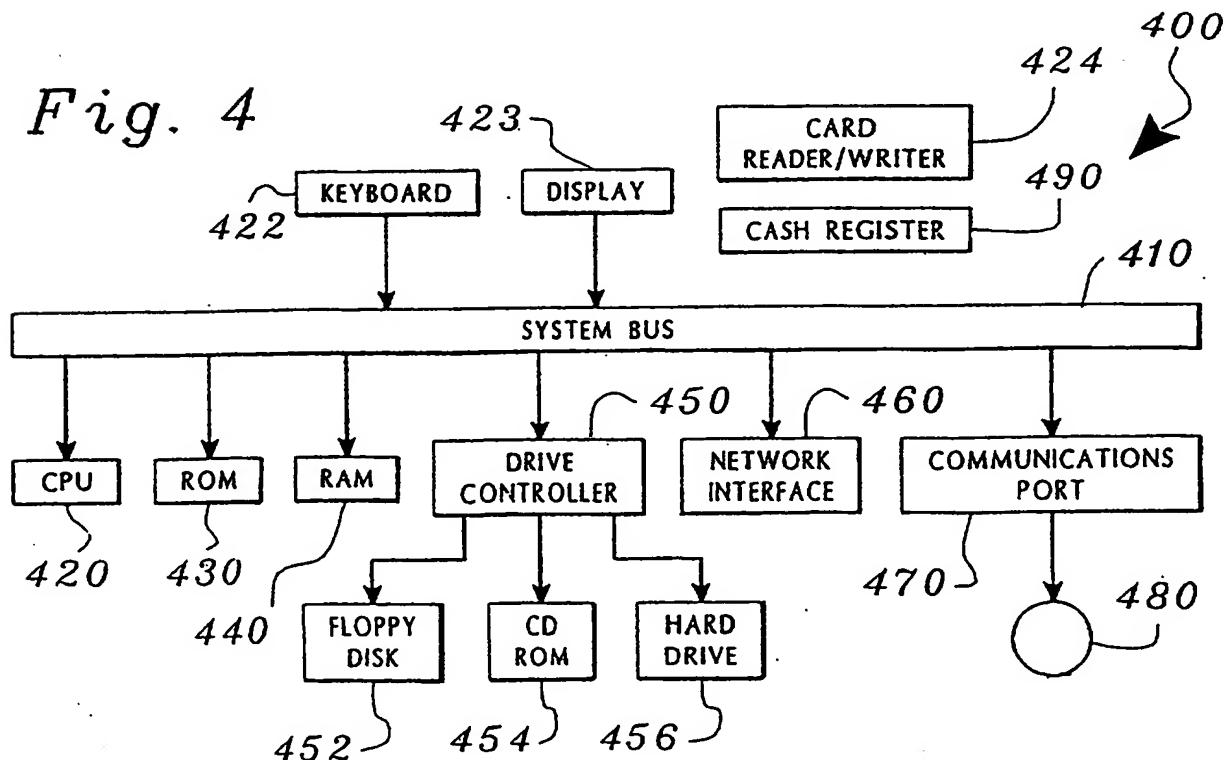


Fig. 4



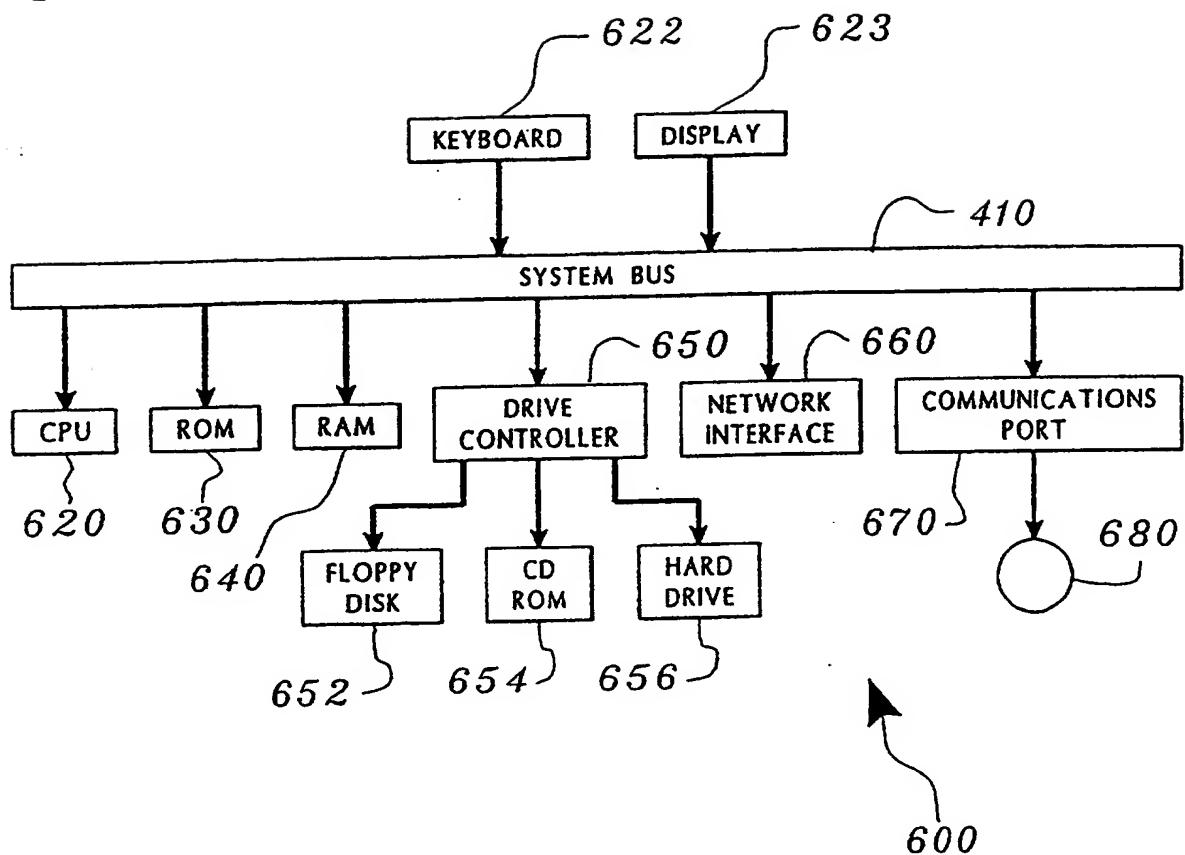


Fig. 5

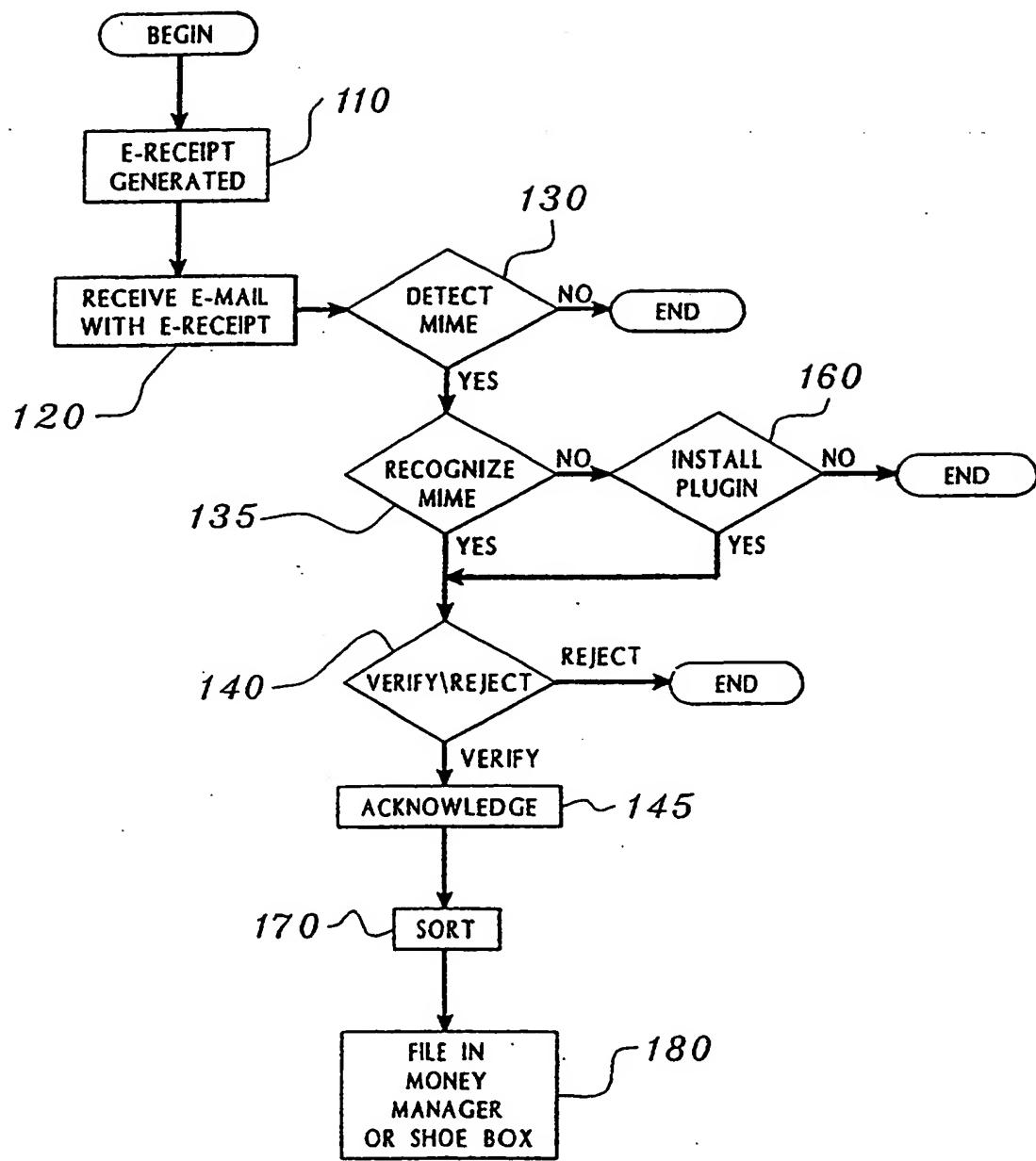


Fig. 6

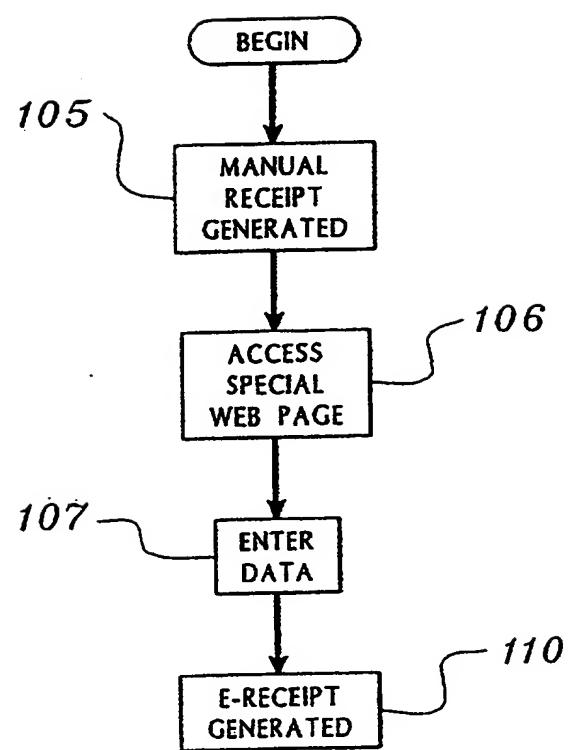


Fig. 7

CREATING AND MANAGING E-RECEIPTS

5 The present invention relates to an apparatus and method for sending
standardized receipts over the Internet for processing by the recipient
directly into a money manager or accounting program.

10 E-commerce on the Internet continually expands along with households
that have computers and money manager or accounting programs. Business to
business transactions also take place over the Internet in ever increasing
volume creating data that needs to be processed by accounting programs.
15 Electronic mail, using either an open network such as the Internet or a
proprietary network, is a simple means of communicating digital information
from one computer to another. General financial transactions are presently
available for transmission to home and office computers by means of
electronic mail. Bank cards (e.g. credit or debit cards) for automated
20 financial transactions employ a digitally-encoded magnetic strip
containing the user's name and account number. The user is afforded access
to computer networks by having the card "read" by a machine. Receipts can
also be uploaded to a smart card or standardized to facilitate automatic
25 processing. Automatic Teller Machine (ATM) transactions and Automatic
Credit/Debit to Checking Accounts also provide digital information for
transmission to home and office computers. All the bank or business
requires to send the transaction information is the customer's e-mail
address. Additionally, an e-mail address can be incorporated into a
magnetic strip for the automatic routing of a receipt to the payer's
e-mailbox.

30 Digital delivery of receipts is known. For example, United States
Patent No. 5,739,512 to Bruce Tognazzini teaches using a credit card
expanded to include an e-mail address so that when the card is swiped and
generates an Electronic Data Interchange (EDI) message to the credit card
authorization system, it can also, after authorization, send a digital
receipt to the buyer's e-mail address for later retrieval. EDI is highly
35 structured electronic mail. In addition to transmitting text-based (ASCII)
information, electronic mail commonly transports a multitude of other data
formats including graphics, binary files containing formatted text, and
sounds. The Electronic Data Interchange (EDI) standard is an effective way
to communicate data by set standards between different organizations. The
concept of a "transaction set" simplifies the integration of electronic
40 messages into an existing but disparate computational infrastructure. A
transaction set is the agreed upon data format which also includes the

definition of the individual data elements. Transaction sets may be standard ones devised and approved by standards such as the American National Standards Institute (ANSI) or standards among enterprises. EDI is most often used between different companies and uses some variations of 5 the ANSI X112 standard (USA) or EDIFACT (UN sponsored global standard).

The Electronic Commerce Modelling Language (ECML) provides a common way to build Web forms that contain credit card and shipping data on e-storefronts. ECML also provides a standard format for storing the user 10 information in a digital wallet on a PC. This way, customers can drag the data from their desktops or third-party provider's Web Site into merchant's e-forms, rather than rekeying it each time they place an order. Encryption techniques permit the secure transmission of electronic 15 information. Well-known public/private encryption schemes provide privacy and content security, while digital signature schemes provide for authentication of the sender. These techniques are well-understood and widely used in many applications, including electronic mail and EDI. United States Patent 5,850,42 exemplifies one of many available methods for 20 permitting secure electronic commercial transactions over a network of users and servers of a type found in the Internet system.

However, when a customer makes a purchase at a business, the current method for processing and maintaining such receipts is for the merchant to print a hard copy of the receipt or to send an e-mail to the buyer which 25 only describes the transaction. The merchant must re-type the contents of the paper receipt for transmission to the customer. If the customer receives an EDI transmission of a transaction, the customer may desire to post the information to one of the many available personal money manager or accounting programs such as Quicken and MS Money. Moreover, the customer 30 may be a business and desire to post the information to a custom accounting program. Presently, with the exception of individually customized programs, all of the transaction information received over the Internet must be entered manually because there is no standard format allowing processing of 35 information into money manager programs. The volume of receipts to be posted makes the process time vary from an inconvenience to a major expense factor when volume is high.

Therefore, the problem arises that a merchant or business desiring to 40 provide such a service to the customer by sending a receipt that can be processed directly into the customer's money manager program must create their own system and software tailored on a customer by customer basis.

Such programs, if attempted, would create a plethora of competing electronic receipt formats limiting customers to only process receipts specifically formatted for interface with particular accounting programs and leaving the customer to manually process all other receipts. As electronic commerce increases the number of receipts to be processed will rise significantly and the time value associated with posting the information will increase correspondingly.

Accordingly, the invention provides a method for creating an electronic receipt in a first computer and sending the electronic receipt over the Internet to a second computer for processing, comprising the steps of: creating the electronic receipt containing pre-selected data in a unique type on the first computer; embedding said electronic receipt in an e-mail message; transmitting said e-mail message with the electronic receipt via the Internet; receiving said e-mail on a second computer containing a program for processing said electronic receipt; posting said data to one or more of the following: a money manager program, an accounting program or a file in the memory of said second computer.

The invention further provides a programmable apparatus in a first computer connected to the Internet for creating an electronic receipt and for sending said electronic receipt from said first computer to a second location for processing, said apparatus comprising: means for creating the electronic receipt containing data in a unique type; means for embedding said electronic receipt in an e-mail; and means for transmitting said e-mail containing said electronic receipt to said second location.

The invention still further provides a programmable apparatus in a second computer connected to the Internet for receiving an electronic receipt from a first computer, said apparatus comprising: means for receiving an e-mail from said first computer, said e-mail including the electronic receipt, said receipt containing data in a unique type; means for detecting the unique type of the electronic receipt; means for recognizing the unique type of the electronic receipt; means for verifying the unique type of the electronic receipt; means for sorting the data in the electronic receipt; and means for posting the data to a money manager program and/or an archive file.

The invention yet further provides an electronic receipt comprising a data object of a unique type embedded in an e-mail by a first computer having a first program; wherein, upon transmission to a second computer

over the Internet said data object is capable of detection and posting by a second program to a money manager program in a second computer.

According to a preferred embodiment, a format for an e-receipt, 5 meets the need for a way to post business transactions directly into a customer's money manager or accounting program without the tedious and time consuming necessity for retyping electronic receipts manually. When used in conjunction with a computer and the Internet the e-receipt preferably provides an apparatus and method by which paper receipts or e-mail messages 10 are replaced by electronic receipts using a standard format that can be processed by a money manger or accounting program.

According to a preferred embodiment, the e-receipt is created automatically as a result of an automatic Internet transaction or a general 15 financial purchase such as ATM, credit or debit cards, automatic deposits and electronic banking. In an alternative embodiment, the e-receipt is created manually from a hard copy cash sale by means of a special "Web Form" used by the merchant to create the e-receipt for transmission to the customer.

20 Preferably, the e-receipt is an object embedded within an e-mail message. The e-receipt is sent to the consumer with a unique MIME type that is detected by the consumer's web browser and posted to a program such as a money manager program and/or an archive file (a "shoebox" file). MIME 25 stands for Multipurpose Internet Mail Extensions and is an existing specification for formatting non-ASCII messages so that they can be sent over the Internet. Most browsers now support MIME, which enables them to send and receive graphics, audio, and video files via the Internet mail system. In addition, MIME supports messages in character sets other than 30 ASCII. There are many predefined MIME types, such as GIF graphics files and PostScript files. It is also possible to define your own MIME types. In addition to e-mail applications, web browsers also support various MIME types. This enables the browser to display or output files that are not in HTML format. MIME was defined in 1992 by the Internet Engineering Task 35 Force (IETF). A version called S/MIME supports encrypted messages.

A preferred embodiment of the present invention will now be described in detail, by way of example only, and with reference to the following drawings:

FIG. 1 Depicts an overview of the process of the present invention, in accordance with a preferred embodiment.

5 FIG. 2 Displays a typical data format for the e-receipt, in accordance with a preferred embodiment of the present invention.

FIG. 3 Displays the hardware used to generate the e-receipt, in accordance with a preferred embodiment of the present invention.

10 FIG. 4 Displays the hardware used for manual generation of the e-receipt, in accordance with a preferred embodiment of the present invention.

15 FIG. 5 Displays the hardware used by the recipient of the e-receipt, in accordance with a preferred embodiment of the present invention.

FIG. 6 Depicts a flow chart of the first time processing of an e-receipt, in accordance with a preferred embodiment of the present invention.

20 FIG. 7 Depicts a flow chart of the process when a merchant manually creates an e-receipt, in accordance with a preferred embodiment of the present invention.

25 FIG. 1 depicts an overview of the process of the present invention, in accordance with a preferred embodiment. An e-receipt can be created in two ways. The first is Automatic Receipt Generation 100 in which the e-receipt is created automatically as a result of an automatic Internet transaction or a general financial purchase such as ATM, credit or debit 30 cards, automatic deposits and electronic banking. The second is Manual Receipt Generation 200 in which the e-receipt is created manually from a hard copy cash sale by means of a special "Web Form" used by the merchant to create the e-receipt for transmission to the customer. The e-mail message is generated by a computer 400 which embeds the e-receipt in the 35 e-mail and sends the e-mail through the Internet 500 to the user's computer 600.

40 FIG. 2 shows a data format of object 300 containing 20 line items of information for the e-receipt, in accordance with a preferred embodiment of the present invention. Persons of ordinary skill in the art will appreciate that object 300 can be modified as appropriate and included in

the specification of the new MIME type for e-receipts. The Originator Identification 301 is the e-mail address of the originator. The Destination Identification 302 is the e-mail address of the user. Merchant Information 303 is discretionary on the part of the merchant and is provided for the convenience of the merchant and the consumer. Both Destination Identification 302 and Merchant Information 303 are useful for providing marketing information which can be analyzed by both the merchant and the consumer. Payee information 304 is the merchant's name and street address or mailing address. Consumer Information 305 is the consumer's name and street address or mailing address. Product/Service description 306 provides information which is helpful for the consumer to recall the specific transaction. Transaction Type 307 states whether the transaction was a buy, sell, transfer, bid, accept, reject, order debit, credit, query for price or other type of transaction. Transaction date 308 provides the transaction execution post date. Service or Manufacture Date 310 provides the actual date the service was performed or the date the product was made. Payment Method 311 states whether payment was or is to be made by cash, credit card or cash/credit/debit account and the corresponding information for the account. Payment Amount 312 states the amount including currency information. Payment Presentation Date 313 states the due date for payment. Payment Received Date 314 states the date payment was received. Tax Information 315 states the amount of tax included in Payment Amount 312. Credits 316 states the dollar amounts credited to the consumer for awards, mileage points and other credits allowed by the merchant. Delivery Information 317 states the carrier, date, delivery and tracking number. Receipt Type 318 states whether the object 300 is an e-receipt presentation, e-receipt acknowledgement or another specified type. E-Receipt Tracking Number 319 states a merchant generated unique number for the e-receipt. The E-Receipt Tracking Number 319 in conjunction with Originator Identification 301, preferably provides a completely unique number which enables the consumer to request a copy of the receipt should the consumer lose the electronic receipt due to a computer failure. Receipt Acknowledgement Indicator 320 provides a "switch" to be set so that if the indicator is on, the merchant will be sent an acknowledgement that the e-receipt was received by the consumer.

FIG. 3 shows automatic creation of object 300 in accordance with a preferred embodiment. Computer 400 may be any suitable computer such as an IBM PC computer, a product of International Business Machines Corporation, located in Armonk, N.Y. Although the depicted embodiment involves a personal computer, a preferred embodiment of the present invention may be

implemented in other types of data processing systems, such as for example, intelligent work stations or mini-computers. A plurality of cash registers 490 (one shown) are connected to a central processing unit (CPU) 420 over a system bus (BUS) 410. A typical cash register is equipped with a keyboard 422 and a display 423. A card reader/writer 424 is used for reading credit cards and can also be used for writing smart card information. Printer 425 is utilized for generating paper receipts in the traditional manner. Control of cash drawer is illustrated at 426 and all of these devices are interfaced to the BUS 410 over cash register interface 421. Read Only Memory (ROM) 430 contains, typically, boot strap routines and a Basic Input/Output System (BIOS) utilized to initialize Central Processing Unit (CPU) 420 at start up. Random Access Memory (RAM) 440 represents the main memory utilized for processing data. Drive controller 450 interfaces one or more disk type drives such as floppy disk drive 452, CD ROM 454 and hard disk drive 456. The number and type of drives utilized with a particular system will vary depending upon user requirements.

A network interface 460 permits communications to be sent to and received from a network. Communications port 470 is utilized for a dial-up connection to one or more networks while network interface 460 is a dedicated interface to a particular network. Programs for controlling the operation of the apparatus shown in FIG. 3 are typically stored on a disk drive and then loaded into RAM for execution during the start-up of the computer.

As an example of automatic creation, object 300 is created as a result of a transaction through a card reading machine, or an electronic report. Generation of a receipt is represented at cash register 490 and card reader/writer 424. Note that payment can occur by any known means such as credit cards, debit cards, cash, check, electronic transfer or the like. Card reader 424 scans a card of some type having stored thereon an electronic mail address for the delivery of receipts. The card itself could be a traditional credit card, a smart card, a magnetically encoded driver's license or any other computer readable card medium, the information on which has been supplemented to include an e-mail address for delivery of electronic receipts. Computer 400 assembles the information from the receipt generator program located in one of the drives, such as Floppy Disk 452, CD-ROM 454 or Hard Drive 456 and the card reader into an e-mail message containing embedded object 300 suitable for transmission across a network. The electronic receipt is sent through either dedicated network interface 460 or through communications port 470 to connection 480

for throughput to user's/consumer's computer 600 (see figure 5). The merchant can choose whether to use MIME or S/MIME; however, in the preferred embodiment, the secure S/MIME is used. Object 300 is embedded within the e-mail message and sent to the consumer via connection 480 with a unique MIME type that is interpreted by the consumer's web browser. The configuration of object 300 creates a MIME standard which is used by any third party in conjunction with the existing and known MIME and browser technology to implement delivery of object 300 to the consumer.

Additional examples of transactions which can be sent by an originator are e-trades, stock purchases and product purchases. For many transactions, cash register 490 and card reader writer 424 would be replaced by the accounting program of the originator. However, an object 300 is according to the preferred embodiment necessary in order to allow the consumer to receive object 300 for posting to programs on consumer's computer 600.

Fig. 4. shows manual creation of the object 300 in accordance with a preferred embodiment of the present invention. A representative computer system 401 is the same as computer system 400 in Fig. 3 with the exception of the connection to cash register 490 and card reader 424. In Fig. 4, cash register 490 and card reader 424 are not connected to computer system 401. In this situation the merchant uses computer 401 to create the e-receipt. A cash sale takes place and a paper receipt is generated. The merchant desires to send an e-receipt to the consumer via e-mail and the consumer desires to receive the e-receipt in a format that can be posted to the money manager or accounting program on consumer's computer 600. The merchant uses his dial up connection to the Internet via communications port 470 to connect to the Internet via connection 480 and uses a special "Web Form" to create object 300 and embed object 300 in an e-mail message to the consumer.

Fig. 5 depicts the consumer's computer according to a preferred embodiment of the present invention which is a representative computer system similar to the computers used by the merchants. The e-mail bearing the e-receipt enters the computer via connection 680 and communications port 670 for processing by programs located on floppy disk 652, CD ROM 654 or Hard Drive 656.

Fig 6 provides a process flowchart for the receipt from generation by the merchant to processing by the user's computer 600 in accordance with

a preferred embodiment of the present invention. The process involves the following steps: generating and sending 110, receiving 120, detecting 130, recognizing 135, verifying 140, acknowledging 145, sorting 170, posting and/or storing 180. The step of generating 110 includes creation of object 300, embedding of object 300 in an e-mail message by programs stored on computer 400 or 401 and sending the e-mail with object 300 embedded. The e-mail message is sent to consumer's computer 600 by means of the Internet. Receiving step 120 is accomplished when the e-mail arrives at the consumer's mail box by means of the particular browser program used by the consumer.

The detecting step 130 preferably relies on existing technology. The electronic receipt is sent to the consumer with a unique MIME embedded in e-mail. The detecting step 130, involves the browser program parsing the e-mail for the unique MIME type.

Next, in recognizing step 135, the web browser will either recognize or not recognize the unique MIME type. Consumer's computer 600 may contain a browser program that is already equipped to process the unique MIME type or it may require an additional program or module in order to do so. Software programs are composed of one or more independently developed modules that are not combined until the program is linked. A single module can contain one or several routines. A plug-in is a software module that adds a specific feature or service to a larger system. For example, there are a number of plug-ins for the Netscape Navigator browser that enable it to display different types of audio or video messages. Navigator plug-ins are based on MIME file types. For example, the Netscape Navigator World-Wide Web browser supports plug-ins which display or interpret a particular file format or protocol such as Shockwave, Real Audio, Adobe PDF, and Corel CMX (vector graphics). The file to be displayed is included in a web page using an <EMBED....HTML> tag. If the customer's web browser is not equipped to process the unique MIME then the customer will be prompted by a dialog box on whether he or she wants to install the plug-in. Recognizing step 135 therefore includes an optional installing step 160 wherein, upon failure to recognize the unique MIME type, a suitable means for directing the consumer, such as pop-up is displayed on consumer's display screen of computer 600. The pop-up directs the consumer on how to load the necessary plug-in. Any browser such as Netscape Navigator, or Microsoft Internet Explorer can handle many types of files. However, for most complicated, non-text files, such as movies or the money manager form, the browser launches a "helper" application which first determines whether

the consumer has the proper plug- in. The first time an e-mail with object 300 embedded is received, if the browser is not equipped or if the plug-in is not installed on the consumer's computer 600, then a pop-up menu informs the user that the MIME type is unrecognizable, and suggests the consumer 5 install the plug-in from a trusted site (such as Netscape plug-in server). If necessary then, installing step 160 is added and upon installation of the plug-in, the process returns to the browser for step 140, verifying the unique MIME type.

10 Upon recognizing the unique MIME type, the browser program will seek to verify the unique MIME type in verifying step 140. If the unique MIME type is not recognized then the unique MIME will be rejected and the process will end.

15 When the browser opens an e-receipt, whether through the program or via a plug-in, if the "Receipt Acknowledgement" indicator is set, then acknowledging step 145 is performed and the originator is sent e-mail containing an object of an e-commerce MIME type to acknowledge the receipt containing the following line items from object 300, Receipt Type 318, 20 Originator Identification 301 and Tracking Number 319.

25 Next, the method proceeds to sorting step 170. In the preferred embodiment, in sorting step 170, the plug-in can sort objects 300 by Sender (ORIGINATOR ID 301), Payee (debit) (PAYEE INFORMATION 304), Payer (credit) (CONSUMER INFORMATION 305) or Account ID (TRACKING NUMBER 319). Persons of ordinary skill in the art will appreciate that other criteria could readily be used. The consumer decides in what order he or she desires to view the data contained in object 300. The consumer can accept, reject or discard the receipts on an individual basis or as a group based on the Sender, 30 Payee, Payer or Account ID. Posting step 180 involves the plug-in passing object 300 to the money manager for further processing and merger into the money manager's financial data base. Finally, the consumer can also choose storing step 180 which involves archiving object 300 into an archive file on computer 600 in floppy drive 652 or hard drive 656. Such 35 an archive file may be referred to as a "shoebox."

40 In FIG 7. the e-receipt is processed in a similar manner in accordance with a preferred embodiment of the present invention; however, the e-receipt generating step is not automatic as the merchant creates object 300 from a special web site. Therefore, the following steps are added. Manual Receipt Generation 105 reflects the act of creating the

normal hard copy document reflecting the transaction. Next, Accessing the Special Web Page 106 entails the merchant turning on his computer, dialing up a connection to the Internet and retrieving the Special Web Page which is formatted for receiving data corresponding to object 300. The use of a Special Web Page for data entry is known. The Special Web Page then creates object 300 and embeds object 300 into an e-mail message. Sending step 110 proceeds in the same manner as step 110 on Figure 6. Thereafter the process proceeds as in Fig 6 beginning with Sending step 110.

10 It will be apparent to a person skilled in the art that the invention can be used to update other types of databases such as inventory, product ordering , manufacturing, parts ordering and any other data involved in commerce.

CLAIMS

1. A method for creating an electronic receipt in a first computer and sending the electronic receipt over the Internet to a second computer for processing, comprising the steps of:

5 creating the electronic receipt containing pre-selected data in a unique type on the first computer;

10 embedding said electronic receipt in an e-mail message;

transmitting said e-mail message with the electronic receipt via the Internet;

15 receiving said e-mail on a second computer containing a program for processing said electronic receipt;

20 posting said data to one or more of the following: a money manager program, an accounting program or a file in the memory of said second computer.

2. The method of claim 1, wherein the unique type is one of MIME and S/MIME.

25 3. The method of claim 1 or 2 further comprising the step of installing a plug-in for processing the electronic receipt transmitted to the second computer.

30 4. The method as recited in claim 1, 2 or 3, wherein a plurality of electronic receipts originate from a plurality of first computers and are received by a plurality of second computers.

5. The method of claim 2, further comprising the steps of:

35 detecting said unique MIME or S/MIME type of said electronic receipt;

recognizing said unique MIME or S/MIME type of said electronic receipt; and

40 verifying said unique MIME or S/MIME type of said electronic receipt; whereby said detecting step follows said receiving step.

6. The method of any preceding claim further comprising the step of sorting the data in the electronic receipt.

7. The method of any preceding claim further comprising the step of acknowledging whereby, responsive to receiving said e-mail in the second computer, an acknowledgement e-mail is sent to the first computer.

8. A programmable apparatus in a first computer connected to the Internet for creating an electronic receipt and for sending said electronic receipt from said first computer to a second location for processing, said apparatus comprising:

means for creating the electronic receipt containing data in a unique type;

means for embedding said electronic receipt in an e-mail; and

means for transmitting said e-mail containing said electronic receipt to said second location.

9. The programmable apparatus of claim 8, wherein the unique type is one of MIME and S/MIME.

10. The programmable apparatus of claim 8 or 9, wherein the first computer further comprises:

25 a bus connected to a network interface and a communications port;

a cash register interface connected to the bus;

one or more cash registers connected to the cash register interface;

30 and

a card reader/writer connected to the cash register interface.

11. A programmable apparatus in a second computer connected to the Internet for receiving an electronic receipt from a first computer, said apparatus comprising:

means for receiving an e-mail from said first computer, said e-mail including the electronic receipt, said receipt containing data in a unique type;

40 means detecting the unique type of the electronic receipt;

means for recognizing the unique type of the electronic receipt;

means for verifying the unique type of the electronic receipt; means for sorting the data in the electronic receipt; and means for posting the data to a money manager program and/or an archive file.

5

12. The programmable apparatus of claim 11, wherein the unique type is one of MIME and S/MIME.

13. The programmable apparatus of claim 11 or 12, comprising means for storing the electronic receipt in the memory of the second computer.

10

14. The programmable apparatus of claim 11, 12 or 13, wherein the money manager program is an accounting or data base program.

15

15. The programmable apparatus of any of claims 11 to 14, further comprising means for sending an acknowledgement to the first computer upon receipt of the electronic receipt at the second computer.

16. An electronic receipt comprising a data object of a unique type embedded in an e-mail by a first computer having a first program;

20

wherein, upon transmission to a second computer over the Internet said data object is capable of detection and posting by a second program to a money manager program in a second computer.

25

17. The electronic receipt of claim 16, wherein the unique type is MIME or S/MIME.

18. The data object of claim 16 or 17 comprising at least one of the following items:

30

originator identification;

destination identification;

35

merchant information;

payee information;

consumer information;

40

product/service information;

transaction type;

transaction date;

5

transaction execution post date;

service or manufacture date;

10

payment method;

payment amount;

payment representation date;

15

tax information;

credits;

20

delivery information;

receipt type;

tracking number; and

25

receipt acknowledgement.



Application No: GB 0021915.4
Claims searched: 1-18

Examiner: Nigel Hanley
Date of search: 22 May 2001

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): G4A(AUXF)

Int Cl (Ed.7): G06F 17/60;

Other: ONLINE: WPI, EPODOC, JAPIO, ELSEVIER, INSPEC, TDB, Internet.

Documents considered to be relevant:

| Category | Identity of document and relevant passage | Relevant to claims |
|----------|---|--|
| X,E | WO 00/75834 A2 | RECEIPTCITY.COM - See whole document especially Page 22-Line 16 to Page 37 Line 19. Note mailing of electronic receipts to a web accessible database and ability for customer to download files for accounting packages. (Page 37 Lines 12-19) |
| X,Y | WO 99/22327 A1 | PENWARE - See whole document. Note storage of users E-mail address on card to allow receipt to be mailed to customer. Note also facility to download data and for import to an accounting package (Page 8 Line 15-34) |
| X,Y | US 5915022 A | ROBINSON - See whole document especially Fig 1-2,5 & 6a-c and Column 2 Line 43-57. Note the appending of an electronic receipt to an E-mail which the customer can save for later use. (Column 8 Line 28-44) |

X Document indicating lack of novelty or inventive step
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A Document indicating technological background and/or state of the art
P Document published on or after the declared priority date but before the filing date of this invention.
E Patent document published on or after, but with priority date earlier than, the filing date of this application.



Application No: GB 0021915.4
Claims searched: 1-18

Examiner: Nigel Hanley
Date of search: 22 May 2001

| Category | Identity of document and relevant passage | Relevant to claims |
|----------|---|--|
| X, Y | US 5739512 A SUN - See whole document. Note especially the hardware used at the point of sale (Column 5 Line 17-28) and the process to create and send an electronic receipt to a customer (Column 6 Line 25-39) | X:1,4,8,10 ,16,18 Y:2,3,5,9, 17 |
| Y | IETF - Internet Engineering Task Force RFC 1767 - MIME Encapsulation of EDI Objects - March 1995. See especially the introduction and note that the specification permits "formatted electronic business interchanges to be encapsulated within MIME messages". | 2, 3, 5, 12, 17 |

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